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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,159	11/01/1999	YORAM BRONICKI	P-15149	8345

7590 07/26/2004

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/431,159

Applicant(s)

BRONICKI, YORAM

Examiner

Alexa A. Doroshenk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Election/Restrictions

1. Newly submitted claims 13-15 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

The newly submitted claims and the original claims are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process can be practiced by another and materially different apparatus wherein the recycle occurs by a single recycle line.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art by their different classification (the original claims are classified in 422/189 and the newly submitted claims are classified in 208/309), restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-15 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 1 continues to be rejected under 35 U.S.C. 103(a) as being unpatentable over Van Dongen et al. (4,405,441) in view of van Klinken et al. (4,039,429) and Kwant et al. (4,200,519).

Van Dongen et al. discloses an apparatus comprising:

a heater for heating heavy hydrocarbons (401) and an atmospheric fractionating tower for fractionating the heated heavy hydrocarbon feed as a first atmospheric distilling unit (407) (Since a still contains both a heat source and a fractionating tower, the atmospheric distillation unit is equivalent to the heater and the atmospheric fractionating tower of the present invention);

a further heater and vacuum fractioning tower as vacuum distilling unit (408) for atmospheric bottoms (421);

a de-asphalting unit (409) for producing DAO (403) and asphaltenes (404) from said vacuum residue (402); and

a thermal cracker (412) for cracking de-asphalting unit oil (403) with recycle connections from an outlet (425) of the thermal cracker (412) to an inlet (418) of the atmospheric fractioning tower (407) (via 425, 428, 429, 405, 415, 416, 418).

Van Dongen et al. further discloses wherein the light vacuum fractions may be subjected to thermal cracking (col. 1, lines 25-28) and further sites the van Klinken et al. reference as demonstrating the processing of such fractions.

Looking to the cited van Klinken et al. reference, the vacuum distilling zone (3) has light fraction (21) sent to a cracking zone (10) along with oil (23) from a de-asphalting unit (4). It would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide means, in the apparatus of Van Dongen et al., for supplying the vacuum light fractions to the thermal cracking unit (412) as it has been taught by van Klinken et al. that a single cracking unit is capable of cracking both vacuum light fractions and de-asphalting unit oil and since such further processing of vacuum light fractions by thermal cracking is recognized by Van Dongen et al. to be desirable.

The claims, as amended, recite wherein a line from said thermal cracker recycles only cracked oil to the inlet of the atmospheric fractionating tower. In view of the arguments presented by applicant and applicant's disclosure, this has been interpreted as wherein a line directly connects the cracker with the atmospheric fractionating tower for recycle of oil without any interposing distillation, fractionation or treatment units.

Van Dongen et al. discloses wherein oil is recycled from the thermal cracking unit (412) to an inlet (418) of the atmospheric fractioning tower (407) via 425, 428, 429, 405, 415, 416, 418 wherein an additional atmospheric distillation unit, a vacuum distillation unit and catalytic hydro-treating unit are interposed.

Kwant et al. also teaches a process for the preparation of oil wherein thermally cracked product (11) is recycled directly from a thermal cracking zone (4) to the inlet (12) of a first atmospheric distillation zone (3), demonstrating that cracked oil can be directly recycled to an atmospheric distillation zone, without interposing treatments, and a system will continue to be fully operational.

It is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to eliminate the interposing units and their functions in the

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recycle line of Van Dongen et al. because the omission of an element and its function where not needed (as demonstrated by Kwant et al.) is obvious. Ex parte Rainu, 168 USPQ 375 (PTO Bd. of Appl. 1969).

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Dongen et al. (4,405,441) in view of van Klinken et al. (4,039,429) and Kwant et al. (4,200,519), as applied to claim 1 above, and further in view of Frayer et al. (3,254,020).

The modified apparatus of Van Dongen et al. does not disclose a means for supplying only the heavy portion of the light vacuum fractions to the light vacuum fraction thermal cracker. Van Dongen et al. does disclose wherein it is desired to have the light product of the device to have a low sulfur content (col. 1, lines 57-62).

Frayer et al. teaches an apparatus for the production of reduced sulfur content vacuum fraction product (col. 1, line 69- col. 2, line 14). In this device, Frayer et al. discloses wherein only the heavier portion (8) of the light fraction is supplied to a thermal cracker (16) and teaches that his portion of the vacuum fractionation product is the portion which is required to be cracked in order to produce a reduced sulfur content product. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the teaching of Frayer et al. of only having the heavy portion of the light vacuum fraction supplied to the thermal cracker in the modified device of Van Dongen et al. as that is the required portion to be cracked in order to achieve Van Dongen et al.'s desire for a low sulfur content product.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Dongen et al. (4,405,441) in view of van Klinken et al. (4,039,429), Kwant et al.

(4,200,519) and Frayer et al. (3,254,020), as applied to claim 11 above, and further in view of Krawitz et al. (3,836,344).

While the modified Van Dongen et al. does disclose a feed which is fed to a hydrotreater (406) and then, as described above, to an atmospheric fractionating unit and further to a vacuum fractionating tower where a portion is supplied to said deasphalted oil thermal cracker and a further portion to the light vacuum fraction thermal cracker, the modified Van Dongen et al. does not disclose wherein a portion of the light atmospheric fraction produced by the atmospheric fractioning tower is a feed to the hydrotreater.

Krawitz et al. teaches wherein hydrogen used in a hydrotreating equipment is generated by conventional means "which uses the light distillate from the atmospheric distillation unit as feed" (col. 3, lines 40-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make use of the light distillate of Van Dongen et al. in order to generate hydrogen for use to feed to the hydrotreating unit in order to economically and efficiently make use of the generated distillate.

Response to Arguments

Claim Objections

The objections to claims 11 and 12 are withdrawn due to applicant's amendments to the claims.

35 USC 103 Rejections

Applicant argues that the claims now recites the transitional phrase "consists essentially of" and therefor limits the scope of the inventive subject matter to the specified materials or steps that do not materially affect the basic and novel characteristics of the claimed invention.

It is noted that MPEP 2111.03 recites:

If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention.

Applicant states that the instant invention and that of the references are different because of the additional structure of the references which is not recited in the claimed invention. The examiner finds that applicant has failed to meet the burden of showing that the additional components of the reference materially change the characteristics of applicant's invention and therefore the rejection is maintained.

In response to applicant's argument that essentially all of the asphaltenes are removed before thermal cracking, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to applicant's argument that Kwant et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed

invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Kwant et al. and Van Dongen et al. teach the preparation of oil comprising atmospheric distillation, thermal cracking and de-asphalting zones.

Applicant argues that the prior art does not show the "hydrogen donor stream" of claim 12. It is noted that claim 12 was not treated on its merits in the previous Office Action because it was objected to as being dependent upon a cancelled claim. Since this has been remedied by applicant in the form of an amendment to the claim, a rejection of the claim on its merits has been presented above.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner
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